



**VECTOR DISEASE CONTROL INTERNATIONAL**  
**NANTUCKET MOSQUITO CONTROL**

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**2017 ANNUAL OPERATIONS REPORT**

District Name: **Town of Nantucket Mosquito Control Project**

Contractor: Vector Disease Control International

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Report prepared by: *Emily Hibbard, MS Entomology, VDCI's Nantucket Contract Supervisor*

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**ORGANIZATION SETUP:**

**Program Director**

Robert McNeil.....Director of Department of Public Works  
Email: [rmcneil@nantucket.ma.gov](mailto:rmcneil@nantucket.ma.gov)

**Commissioner Names**

Charles Stott.....Chair  
Helene Weld, RN.....Board of Health  
Dr. Timothy Lepore, MD, PhD..... Board of Health  
Ashley Erisman.....Conservation Commission  
Mark Palmer..... Member at Large



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**Cristina Flores.....2017 Temporary Contract Supervisor**  
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**Administrative: Cristina Flores**  
**Biologist: Dan Markowski, Emily Hibbard**  
**Entomologist: Emily Hibbard**  
**Facilities: Nolan Fernandez, Emily Hibbard**  
**Information Technology: Cristina Flores**  
**Laboratory: Nolan Fernandez, Emily Hibbard**  
**Operations: Nolan Fernandez, Emily Hibbard**  
**Public Relations: Nolan Fernandez**

**For the year of this report, the following were maintained:**

**1 Vehicle**



## **VECTOR DISEASE CONTROL INTERNATIONAL**

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### **NANTUCKET MOSQUITO CONTROL**

#### **INTEGRATED PEST MANAGEMENT PLAN (IPM):**

##### **Current Services:**

- Larval mosquito surveillance
- Larval mosquito control
- Source Reduction
- Adult mosquito surveillance
- Arbovirus testing
- Education, Outreach & Public Education

**Definition:** Integrated Pest Management (IPM) is a comprehensive strategy of pest management to achieve reduced levels of pest control using an effective and environmentally sensitive approach. Successful IPM plans rely on a combination of practices to reduce the need for reliance on chemical pesticide. This can be accomplished by using the most current and comprehensive information on the life cycle of the pest and their interaction with the environment.

**Nantucket Mosquito Control IPM plan:** The goal of VDCI's Nantucket mosquito control program is to identify and treat mosquitoes in the most ecologically responsible manner through continuous monitoring techniques, source reduction, increased sanitation, and the use of lowest risk pesticides when necessary. All mosquito management decisions will be made after conducting surveillance and determining that mosquito populations have reached an action threshold. VDCI will implement a zero tolerance threshold and treat breeding populations in a most environmentally sound manner. Source reduction will be the primary control method and the application of larvicides will only be applied when source reduction is not an option. The approved larvicide used will be species specific and will not harm humans, animals, birds, other insects, fish, shellfish, plants or the environment. Aerial and truck spraying for adults will not be employed. Private property owners will be permitted to opt out of testing and treatment



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### **NANTUCKET MOSQUITO CONTROL**

#### **LARVAL MOSQUITO SURVEILLANCE:**

**Purpose:** The purpose of larval mosquito surveillance is to determine larval breeding habitats

**Time frame:** May-October

**Areas:** Areas surveyed are public and private properties that could provide a breeding habitat for mosquito larvae. Examples of surveillance habitats include wetlands, marshes, flood plains, catch basins, drainage ditches, rain barrels, trash receptacles and/or any container capable of holding water.

**Total number of site inspections:** 455

#### **LARVAL MOSQUITO CONTROL:**

**Purpose:** The purpose of the larval mosquito control program is to manage mosquito populations in breeding habitats throughout the Town to protect public health from potential arboviral threats and to control nuisance mosquitoes.

**Time frame:** April – September

**Areas:** Areas treated are all authorized sites found to contain breeding mosquito larvae through the use of larvicide application

**Trigger for larviciding operations:** larval dip counts found to contain breeding mosquito larvae

**Product name:** FourStar 180 briquets

**Habitat:** Catch basins

**EPA Reg. #:** 83362-3

**Application method:** hand applied

**Targeted life stage:** larvae

**Total amount applied:** 16 briquets

**Application rates:** 1 briquets /100sq ft.

**Total # Catch Basins Treated:** 16



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**Product Name:** Vectobac G

**EPA Reg. #:** 73049-10

**Application method:** spreader/backpack sprayer/hand application

**Targeted life stage:** Larvae

**Application rates:** 2.5-10lbs/acre

**Total # Acres Treated:** 203.9

**ADULT MOSQUITO CONTROL:**

N/A

**SOURCE REDUCTION:**

Removal, dumping, or filling of any containers on public property that would create a larval habitat for mosquitoes including but not limited to trash/recycling bins, birdbaths, buckets, wheelbarrows, children's pools, puddles, ditches, etc.

**WATER MANAGEMENT/ DICH MAINTENANCE:**

N/A

**ADULT MOSQUITO SURVEILLANCE:**

**Purpose:** The purpose is to sample adult mosquito populations to assess efficacy of the larval control measures and to monitor for the presence of arboviruses. All adults collected are counted and identified to species.

**Time frame:** May – October

**Total Number of Traps Set:** 125

**Trap Types Used:**

Gravid traps

CDC light trap with CO<sub>2</sub>

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**Types of adult mosquito surveillance traps:**

Gravid Trap



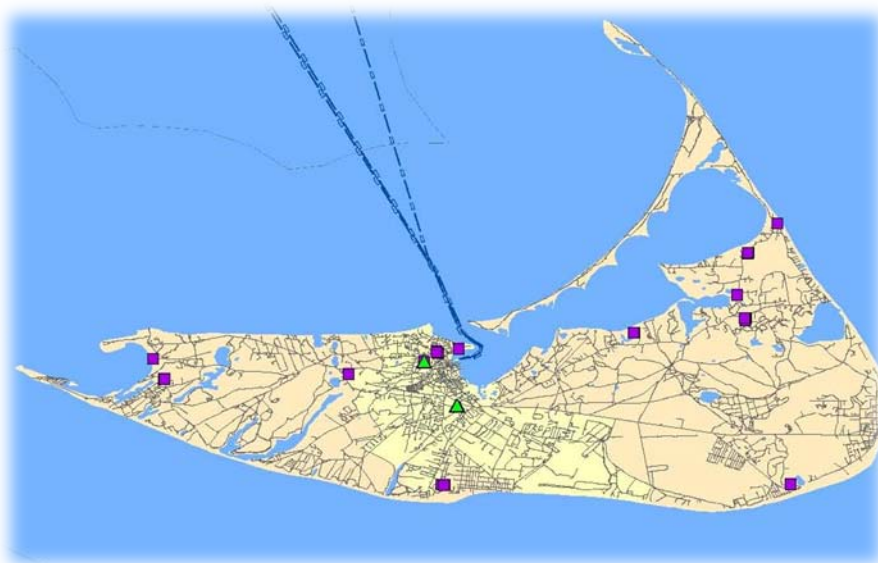
miniature CDC light trap with CO<sub>2</sub>



**ADULT MOSQUITO SURVEILLANCE CONTINUED:**

**Trapping sites:** Eight long term trap sites were maintained throughout the season. Long term trap sites were chosen in 2013 based on historical mosquito collection data and suspected larval habitat. Supplemental, short term traps were deployed as needed.

**Adult Surveillance trapping sites:**





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#### ADULT MOSQUITO SURVEILLANCE:

##### Species of concern:

*Ae. albopictus* (none collected)

*Ae. vexans*

*Ae. cinereus*

*An. punctipennis*

*An. quadrimaculatus*

*Cq. perturbans*

*Cx. pipiens*

*Cx. restuans*

*Cx. salinarius*

*Cs. morsitans*

*Cs. melanura*

*Oc. canadensis*

*Oc. excrucians*

*Oc. intrudens*

*Oc. japonicus*

*Oc. sollicitans*

*Oc. taeniorhynchus*

*Oc. triseriatus*

*Oc. trivittatus*

*Ps. ferox*

*Ur. sapphirina*



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### **NANTUCKET MOSQUITO CONTROL**

#### **ARBOVIRUS TESTING:**

**Purpose:** The purpose of arbovirus testing is to identify mosquito borne diseases that may cause a threat to public health. Mosquitoes were collected, identified and sorted by VDCI staff and shipped to a VDCI laboratory for arboviral testing of West Nile Virus and Eastern Equine Encephalitis. Submissions were received the week of collection and testing was performed using RT-PCR assays.

**Testing:** 36 pools were tested by private VDCI labs using RT-PCR analysis.

**Results:** All pools tested were negative for WNV and EEE and no human, avian, or equine illnesses were reported in 2017

#### **DATA:**

Data collected and maintained in the VDCI database and includes:

- Species identification
- Species distribution
- Population densities
- Mapping
- Arbovirus Testing Results

Reports and updates were also submitted to the Northampton Board of Health

#### **EDUCATION, OUTREACH, AND PUBLIC COORDINATION:**

Educational materials are available through the Nantucket Public Works web page, the VDCI website as well as the MA Dept. of Public Health website:

<http://www.nantucket-ma.gov/239/Mosquito-Control>

<http://vdc.net/index.php>

[www.mass.gov/dph/mosquito](http://www.mass.gov/dph/mosquito)





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**INFORMATION TECHNOLOGY:**

All data collected was maintained in the VDCI Great Mechanism Database. GPS equipment was used for all site visits and GIS mapping is available through VDCI's GIS department.

**REVENUES & EXPENDITURES:**

Privately funded by the Town of Nantucket

**SERVICE REQUESTS:**

N/A

**EXCLUSIONS:**

N/A

**SPECIAL PROJECTS:**

N/A

**CHILDREN AND FAMILIES PROTECTION ACT:**

This program is not impacted by the Children and Families Protection Act

**NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT PROGRAM:**

Permit Number: MAG87A139

**GENERAL COMMENTS:**

N/A